PREFACE

This report was developed in part under contract by the H. B. Maynard nd Company, Inc., Pittsburgh, Pa., and by the author while on leave of bsence with the National Commission on Productivity.

Appreciation for cooperation is given to John E. Morrissey, administra-or, National Commission on Productivity, for permission to publish research ata developed under contract. Acknowledgment for their cooperation and ssistance is gratefully given to Richard N. Brown, past executive vice resident, and William P. Fisher, executive vice president, the National estaurant Association, Chicago, Ill., and to Vernon E. Cordell, Robert N. mith, and other members of the National Restaurant Association's Committee n U.S. Department of Agriculture's Food Service Research.

Special credit is due the owners, managers, and personnel who generously ave their time, shared their knowledge, and made their facilities available or detailed study at the following food service operations: Beale's Res-aurant, Harrisburg, Pa.; Birchmere Restaurant, Arlington, Va.; Dennis' estaurant, Pittsburgh, Pa.; Eddie's Sandwich Shop, Baltimore, Md.; Frisch's ig Boy, North College Hill, Ohio; International House of Pancakes, Takoma ark, Md.; Jim's Coffee Shop, San Antonio, Tex.; Regan's Restaurant, Kansas ity, Mo.; Restaurant Associates Industries, Inc., New York, N.Y.; Smithfield afe, Pittsburgh, Pa.; Tad's Enterprises, Inc., New York, N.Y.; Third Ave El estaurant, New York, N.Y.; and Union 76 Truck Stop, Yukon, Okla.

This study was conducted under the general direction of K. H. Brasfield, hief, Food Distribution Research Laboratory, Agricultural Marketing Research nstitute, Agricultural Research Service.

CONTENTS

BASIC LABOR PRODUCTIVITY MEASURES FOR
POPULAR BREAKFAST MENU ITEMS

By John F. Freshwater, industrial engineer, Food Distribution
Research Laboratory, Northeastern Region, Agricultural Research Service

The objective of this research was to provide the food service industry
with basic labor productivity measures for popular breakfast menu items,
including time values for work elements common to the production of many menu
items. These basic productivity measures may be used to determine the direct
labor costs to produce a specific menu order 1/ and as building blocks to
develop productivity measures for scheduling employees and controlling labor
costs.

This report is one of a series. Future research published in this
series will include labor productivity measures for lunch and dinner menu
items and for such indirect services as wash pots and pans. Productivity
measures for additional breakfast menu items will be developed and published
as supplements to this report as warranted by demand. For this reason this
publication has not been bound. The user will be able to update this ma-
terial by adding the supplements as they become available.

BACKGROUND

The inception of "scientific management" in the United States is
generally credited to Henry R. Towne. In 1886 at a meeting of the American
Society of Mechanical Engineers, he presented a paper, "The Engineer as an
Economist," in which he stated—"To insure the best results, the organization
of productive labor must be directed and controlled by persons having not
only good executive ability, and possessing the practical familiarity of a
mechanic or an engineer with the goods produced and the processes employed,
but having also, and equally, a practical knowledge of how to observe,
record, analyze and compare essential facts in relation to wages, supplies,
expense accounts, and all else that enters into or affects the economy of
production and the cost of the product."

As a result of this presentation, Frederick W. Taylor and Frank Gilbreth
pioneered the development of labor productivity measurement by determining
the time required to perform a given operation—Taylor from stopwatch readings

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1/ A menu order is a separately priced food item listed on the bill of
fare, and it may consist of one or more menu items.

and Gilbreth from predetermined time values for basic body motions. Gilbreth analyzed motion picture films of workers performing various tasks in a laboratory environment.

Traditionally, productivity measures are defined by economists and engineers as the ratio of input divided by output or vice versa. To determine the amount of physical resources needed to produce a given product or to provide a service, the ratio of input divided by output is the productivity measure most used by engineers. Measures such as labor cost divided by dollar sales (labor cost ratio) and food cost divided by dollar sales (food cost ratio) are commonly used in the food service industry.

The labor productivity measures in this report are expressed in terms of basic standard time values per 100 units of finished output. The term "basic" is used to indicate that the time values do not include allowances for such activities as receive instructions from management, sweep and mop floors, or for inherent delays that occur. The data show the basic time values to produce menu items or provide services. The term "standard time" as used here is the product of normal time multiplied by a personal and fatigue allowance factor of 115 percent. Normal time values were developed from Universal Standard Data (USD). The term "standard" means a specific method or procedure to produce a given menu item or to provide a service.

USD was developed by the H. B. Maynard and Co., Inc., in 1954 while working with a company in Sweden that produced farm tractors on an assembly line. It was used to reduce the engineering time required to design labor productivity measures employing Methods Time Measurement (MTM) data.

MTM 2/ data were developed at the Methods Engineering Council, Pittsburgh, Pa., by H. B. Maynard, G. J. Stegemerten, and J. L. Schwab from an extensive analysis of motion picture film of employees engaged in various jobs. This research determined time requirements for basic body motions.

Basically USD condenses the data found in MTM tables by combining grasp and reach motions and also move, position, and release motions. Subsequent to USD development and use in Sweden, it was employed successfully on a wide variety of assembly work in both Europe and the United States. A computer simulated program has shown that 50 percent of all work requiring a time interval from 0 to 7.2 seconds has an error exceeding 5 percent. Ninety percent of all work requiring a time interval from 7.2 to 10.8 seconds has an error of less than 4 percent. 3/

2/ For additional information on MTM, see Maynard, H. B., Stegemerten, G. J., and Schwab, J. L., Methods Time Measurement, 292 pp., McGraw-Hill Book Co., New York, 1948, and Karger, D. W., and Bayha, F. H., Engineered Work Measurement, 772 pp., Industrial Press, Inc., New York, 1965.

3/ Additional details concerning USD and computer simulation may be obtained from the H. B. Maynard and Co., Inc., Maynard Bldg., 2040 Ardmore Blvd., Pittsburgh, Pa. 15221.

USD was selected as the industrial engineering technique to develop the labor productivity measures in this research for four reasons. First, USD and MTM are the only predetermined time systems whose entire data and research have been made available to the general public. Second, the shortcomings of traditional time study are eliminated. 4/ They primarily center on the observed worker's level of skill or training, on the level of physical and psychological factors affecting him, and on the ability of the time study observer to accurately record time and judge the tempo of work. Third, all the tasks 5/ in food service establishments require more than 7.2 seconds to perform. Fourth, USD requires less engineering time to develop labor productivity measures than time study and MTM at less than 4-percent error.

The use of labor productivity measures will not in itself improve the efficiency or performance and reduce operating costs in a food service establishment. Labor productivity measures do, however, provide management and employees with factual quantitative data to pinpoint problem areas and to evaluate the potential cost savings of methods improvements.

In reality, the recipe for productivity measurement consists of three critical ingredients—training, motivation, and physical resources. In most instances, training and motivation cannot be measured in terms of concrete quantitative data but rather in qualitative data that relate the various aspects of human behavior between individuals or groups of individuals. The productivity measures in this report are expressed in concrete quantitative values for physical resource requirements. The reader and user of these data must clearly understand the interrelationship between training, motivation, and physical resources, as the absence of one of these key ingredients results in zero productivity.

PROCEDURES

The time values in this report are based on the best method found to produce a specific menu item at a well-designed and equipped work station. This was accomplished by analyzing the production methods for menu items in 13 restaurant operations, selecting the best method, and developing time values for it. 6/

4/ Hoxie, R. F. Scientific management and labor. Pp. 46-47. D. Appleton and Co., New York. 1921.
5/ Identifiable as a completed product or service.
6/ For additional details on work station design, see Freshwater, John F., and Bouma, John C., Labor Utilization and Operating Practices in Commercial Cafeterias, U.S. Dept. Agr. Mktg. Res. Rpt. 824, 45 pp., 1969, and Freshwater, John F., Labor Utilization and Operating Practices in Table Service Restaurants, U.S. Dept. Agr. Mktg. Res. Rpt. 931, 65 pp., 1971, U.S. Govt. Printing Off., Washington, D.C.

The restaurants were selected on the basis of menu variety, sound food preparation practices, equipment layout, and management expertise, but not on profitability. Each restaurant had annual sales of over $100,000. The restaurants were located throughout the United States and ranged from single-ownership, one-unit to public-corporate, multiunit establishments. In each case, one unit was analyzed. Daily hours of operation varied from 16 to 24.

BASIC NORMAL TIME VALUES FOR
COMMON WORK ELEMENTS

While conducting this research several basic motion patterns were found to be repeated in most of the participating restaurants. These repetitive motion patterns were common to the production of more than one menu item. They are defined here as work elements and are characterized by an identifiable starting and stopping point. Time values expressed in TMU (time measurement units) 7/ and decimal minutes were developed for 44 common work elements. The time values for these elements were used as building blocks to develop the labor standards for specific menu items. Each common work element was assigned the prefix code K for cross-reference purposes.

Table 1 summarizes the basic normal time values for the 44 work elements and table 2 gives the basic normal time values for USD motions in each of these work elements. An explanation of the symbols used in these tables follows:

A ---- Number of pieces, items, packages, or containers
G ---- Number of pieces of garnish
N ---- Number of pieces per menu portion or serving
P ---- 1 gal of water
T ---- Number of times measuring spoons or ladles are used per batch
W ---- 1 oz (avoirdupois) (weight)

The alphabetic numeric data in the code column of table 2 are USD symbols 8/ except nt and S L. The code nt is the abbreviation for normal time. Normal time values were determined from stopwatch readings. The code S L is the abbreviation for sheet and line; for example, S1L 1-3 is used to repeat the motions described on sheet 1, lines 1, 2, and 3.

7/ 1 TMU = 0.00001 h = 0.0006 min = 0.036 s.
8/ Hodson, W. K., and Mattern, W. J. Universal standard data. Indus. Engin. Handb., 1,543 pp. McGraw Hill Book Co., Inc., New York. 1963.

TABLE 1.--Summary of basic normal time values
for common work elements

Code	Work element description	Normal time per occurrence	
		TMU 1/	Min
K 1-----	1 item from reach-in cooler-----------	199	0.119
K 2-----	Multiple items from reach-in cooler---	193 + 28A	.116 + .017A
K 3-----	1 item from walk-in cooler-----------	925	.555
K 3-1---	Multiple items from walk-in cooler using cart----------------------------	2,151 + 195A	1.291 + .117A
K 4-----	Place pan in reach-in cooler----------	300	.180
K 4-1---	Get pan from reach-in cooler----------	300	.180
K 5-----	Broil or fry interleaved product------	168 + 169N	.101 + .101N
K 5-1---	Broil or fry noninterleaved product---	144 + 147N	.086 + .088N
K 6-----	Season---------------------------------	158	.095
K 7-----	Get bread (stored in warmer)----------	78	.047
K 8-----	Get sliced meat or cheese-------------	59	.035
K 8-1---	Get item-------------------------------	38	.023
K 8-2---	Place pan cover-----------------------	61	.037
K 9-----	Pour beverage; 5-10 oz----------------	131	.079
K 10----	Order to pickup station---------------	145	.087
K 11----	Clean work station--------------------	848	.509
K 12----	Steel knife---------------------------	555	.333
K 13----	Get pan from storage------------------	191	.115
K 14----	Manually slice meat-------------------	59 + 178N	.035 + .107N
K 15----	Rinse pan-----------------------------	172	.103

See footnote at end of table.

TABLE 1.--Summary of basic normal time values for common work elements--Continued

Code	Work element description	Normal time per occurrence	
		TMU 1/	Min
K 16----	Dredge meat---------------------------------	4,123 + 156N	2.474 + .094N
K 17----	Wash hands----------------------------------	766	.460
K 18----	Deep fry; nonpressurized fryer--------	651	.391
K 18-1--	Deep fry; nonpressurized fryer with Btu sensor----------------------------	477	.286
K 19----	Open can and empty---------------------	659	.395
K 20----	Cook with pot or pan-------------------	1,378	.827
K 21----	Dish up food item---------------------	193	.116
K 22----	Empty 10- to 20-lb bag into pan-------	398	.239
K 22-1--	Empty 1- to 10-lb bag into pan--------	252	.151
K 23----	Prerinse ingredients------------------	52 + 166A	.031 + .100A
K 24----	Fry with skillet----------------------	505	.303
K 25----	Toast and butter bread (2 slices)-----	446	.268
K 26----	Open box------------------------------	366	.220
K 26-1--	Open package--------------------------	135	.081
K 27----	Dish up cold food item from reach-in cooler--------------------------------	468 + 91G	.281 + .055G
K 28----	Item to trash-------------------------	116	.070
K 29----	Item from storeroom-------------------	707	.424
K 29-1--	Multiple items from storeroom with cart----------------------------------	1,329 + 195A	.797 + .117A
K 30----	Fill container with water-------------	104 + 417P	.062 + .250P

See footnote at end of table.

TABLE 1.--Summary of basic normal time values
for common work elements--Continued

Code	Work element description	Normal time per occurrence	
		TMU 1/	Min
K 31----	Item to steamtable----------------------	694	.416
K 32----	Baste----------------------------------	100	.060
K 33----	Garnish--------------------------------	97G	.058G
K 34----	Weigh dry ingredient-------------------	308 + 32W	.185 + .019W
K 35----	Measure dry ingredient with measuring spoon or ladle------------------------	260 + 59T	.156 + .035T

1/ Time measurement units.

TABLE 2.--Basic normal time values for common work elements

K 1 - 1 item from reach-in cooler

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU 1/	Number	TMU
1	Turn and walk to reach-in cooler	WO2	53	1	53
2	Get door handle	G18S	19	1	19
3	Open door	P18B	19	1	19
4	Get item in pan	G18S	19	1	19
5	Item from pan	M18B	17	1	17
6	Close door	P18B	19	1	19
7	Turn and walk to station	WO2	53	1	53
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Time measurement units.

Sheet total		199
Grand total		199

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TABLE 2.--Basic normal time values for common work elements--Continued

K 2 - Multiple items from reach-in cooler

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Turn and walk to reach-in cooler	WO2	53	1	53
2	Get door handle	G18S	19	1	19
3	Open door	P18B	19	1	19
4	Get 1st item in pan	G18D	37	1	37
5	Reposition in hand	M2A	4	1	4
6	Get additional items	G2D	24	A-1	24A-24
7	Reposition additional items in hand	M2A	4	A-1	4A-4
8	Items from pan	M18B	17	1	17
9	Close door	P18B	19	1	19
10	Turn and walk to station	WO2	53	1	53
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		193 + 28A
			Grand total		193 + 28A

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TABLE 2.--Basic normal time values for common work elements--Continued

K 3 - 1 item from walk-in cooler

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Turn and walk to freezer and return	W180	325	2	650
2	Get door handle	G18s	19	1	19
3	Open door	P26B10	27	1	27
4	Walk into freezer	WO3	70	1	70
5	Get package	G26D	42	1	42
6	Lift package from shelf	P8B10	15	1	15
7	Walk from freezer	WO3	70	1	70
8	Close door	BD2	32	1	32
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		925
			Grand total		925

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.

TABLE 2.--Basic normal time values for common work elements--Continued

K 3-1 - Multiple items 1/ from walk-in cooler using cart

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To cart	WO3	70	1	70
2	Push cart to cooler	WC14	416	1	416
3	To cooler door	WO2	53	1	53
4	Open door; re K 3	S1L 2-3	46	1	46
5	Cart into cooler	WC8	251	1	251
6	Turn to get 1st item	BD2	32	1	32
7	Get 1st item; re K 3	S1L 5-6	57	1	57
8	Turn to cart with 1st item	BD2	32	1	32
9	Place 1st item on cart	P8B10	15	1	15
10	Turn to shelf	BD2	32	A-1	32A-32
11	Additional items from shelf	S1L 7	57	A-1	57A-57
12	Get cart handle	G12S	15	1	15
13	Cart to door	WC2	86	1	86
14	Walk to door	WO2	53	1	53
15	Open door	S1L 4	46	1	46
16	Get cart	G18S	19	1	19
17	Cart from cooler	WC3	113	1	113
18	Walk to door	WO2	53	1	53
19	Close door	S1L 4	46	1	46
20	Walk to cart	WO2	53	1	53
21	Cart to work station	WC18	527	1	527
22	Walk to items on cart	WO2	53	1	53
Notes: 1/ 2 or more packages weighing over 30 lb or 3 or more cans.		Sheet total			1,947 + 89A

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TABLE 2.--Basic normal time values for common work elements--Continued

K 3-1 - Multiple items 1/ from walk-in cooler using cart

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get 1st item	G8S	12	1	12
2	Item from cart	P8B10	15	1	15
3	To table with item	BD2	32	1	32
4	Place item on table	P8B10	15	1	15
5	To cart for other items	BD2	32	A-1	32A-32
6	Additional items to table	S2L 1-4	74	A-1	74A-74
7	To cart	WO2	53	1	53
8	Cart to storage	WC3	113	1	113
9	Return to work station	WO3	70	1	70
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ 2 or more packages weighing over 30 lb or 3 or more cans.		Sheet total			204 + 106A
		Grand total			2,151 + 195A

TABLE 2.--Basic normal time values for common work elements--Continued

K 4 - Place pan in reach-in cooler

Line	Motion description	Code	Unit time	Frequency	Total time
			TMU	Number	TMU
1	Get pan	G8S	12	1	12
2	Lift pan from table	P8B10	15	1	15
3	Pan to reach-in cooler	W02	53	1	53
4	Reposition pan on hip	M18A	--	--	--
5	Get door handle	G18S	19	1	19
6	Open door	P18B	19	1	19
7	Get pan	G26S	25	1	25
8	Pan to shelf support	M18C10	23	1	23
9	Place pan into shelf support	P2L10	19	1	19
10	Slide pan into reach-in cooler	P12B10	18	1	18
11	Get door	G26S	25	1	25
12	Close door	P18B	19	1	19
13	Return to work station	W02	53	1	53
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		300
			Grand total		300

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TABLE 2.--Basic normal time values for common work elements--Continued

K 4-1 - Get pan from reach-in cooler

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To reach-in cooler	WO2	53	1	53
2	Get door handle	G18S	19	1	19
3	Open door	P18B	19	1	19
4	Get pan	G26S	25	1	25
5	Slide pan from reach-in cooler	P12B10	18	1	18
6	Position pan on hip	M18A	18	1	18
7	Get door	G26S	25	1	25
8	Close door	P18B	19	1	19
9	Get pan	G18S	19	1	19
10	Pan to center	M18B	17	1	17
11	Return to work station	WO2	53	1	53
12	Place pan on table	P8B10	15	1	15
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		300
			Grand total		300

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TABLE 2.--Basic normal time values for common work elements--Continued

K 5 - Broil or fry interleaved product

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get product	G18E	27	N	27N
2	Get interleaved paper	G8S	12	N-1	12N-12
3	Remove interleaved paper	P5B	10	N	10N
4	Paper to trash can and return	BD1	18	2	36
5	Place product on cooking surface	P18B	19	N	19N
6	Get spatula	G12S	15	1	15
7	Move spatula under product	P12B	15	N	15N
8	Move spatula up to turn	P5B	10	N	10N
9	Rotate spatula	GT135	9	N	9N
10	Aside spatula	P12B	15	1	15
11	Get spatula	G12S	15	1	15
12	Move spatula under product	P12B	15	N	15N
13	Lift product from cooking surface	P5B	10	N	10N
14	Get plate	G18E	27	1	27
15	Place plate on tabletop	P18B	19	1	19
16	Put product on plate	P18C	42	N	42N
17	Move spatula to cooking surface	P18B	19	1	19
18	Move spatula across cooking surface	P18B	19	1	19
19	Aside spatula	P12B	15	1	15
20					
21					
22					
Notes:			Sheet total		168 + 169N
			Grand total		168 + 169N

TABLE 2.--Basic normal time values for common work elements--Continued

K 5-1 - Broil or fry noninterleaved product

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get product	G18E	27	N	27N
2	Broil or fry and plate; re K 5	S1L 5-19	--	--	144+120N
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		144 + 147N
			Grand total		144 + 147N

TABLE 2.--Basic normal time values for common work elements--Continued

K 6 - Season 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get shaker	G18E	27	1	27
2	Shaker to product	P18B	19	1	19
3	Move shaker up and down	M5B	8	10	80
4	Aside shaker	P18L	32	1	32
5					
6					
7					
8					
9					
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11					
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19					
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21					
22					
Notes: 1/ Granulated seasoning from shaker.			Sheet total		158
			Grand total		158

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TABLE 2.--Basic normal time values for common work elements--Continued

K 7 - Get bread 1/ (stored in warmer)

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get bun warmer drawer	G18S	19	1	19
2	Open drawer	M12B	13	1	13
3	Get bun	G12E	22	1	22
4	Place bun on sandwich block	P26B	24	1	24
5	Close drawer with knee	M12A	--	--	--
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ Includes buns or toast.			Sheet total		78
			Grand total		78

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TABLE 2.--Basic normal time values for common work elements--Continued

K 8 - Get sliced meat or cheese

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get slice	G18E	27	1	27
2	Place slice	P18L	32	1	32
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		59
			Grand total		59

TABLE 2.--Basic normal time values for common work elements--Continued

K 8-1 - Get item 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get item	G18S	19	1	19
2	Place item	P18B	19	1	19
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ Small handtools, measures, pot holders, and so forth.			Sheet total		38
			Grand total		38

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TABLE 2.--Basic normal time values for common work elements--Continued

K 8-2 - Place pan cover

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get cover	G18S	19	1	19
2	Place cover on	P18C	42	1	42
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		61
			Grand total		61

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TABLE 2.--Basic normal time values for common work elements--Continued

K 9 - Pour beverage; 5 to 10 oz

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Move server over cup	M18C	20	1	20
2	Pour beverage	nt	100	1	100
3	Move server aside	M8B	11	1	11
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		131
			Grand total		131

TABLE 2.--Basic normal time values for common work elements--Continued

K 10 - Order to pickup station

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get plate	G12S	15	1	15
2	Turn and walk to counter	W20	53	1	53
3	Place plate on counter	P26B	24	1	24
4	Get ticket from wheel	G12A	27	1	27
5	Place ticket under plate	P12L	26	1	26
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		145
			Grand total		145

39

TABLE 2.--Basic normal time values for common work elements--Continued

K 11 - Clean work station

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get towel	G18S	19	1	19
2	Move towel to tabletop	P18B	19	1	19
3	Move towel on work surface to clean	P26B10	27	10	270
4	Walk to sink and return to station	W50	104	2	208
5	Get faucet handle	G18S	19	2	38
6	Turn water off and on	P2B	7	2	14
7	Rinse out towel and wring damp dry	nt	280	1	280
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		848
			Grand total		848

41

TABLE 2.--Basic normal time values for common work elements--Continued

K 12 - Steel knife

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get steel	G18S	19	1	19
2	Steel to knife	P18B	19	1	19
3	Sharpen knife	P8L	23	20	460
4	Steel to other hand	G8T	15	1	15
5	Get ring on steel	G5S	10	1	10
6	Place steel on hook	P18L	32	1	32
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		555
			Grand total		555

43

TABLE 2.--Basic normal time values for common work elements--Continued

K 13 - Get pan from storage 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To pan storage and return	W30	70	2	140
2	Get pan	G26E	32	1	32
3	Place pan on table	P18B	19	1	19
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Also includes pots or skillets.

	Sheet total	191
	Grand total	191

TABLE 2.--Basic normal time values for common work elements--Continued

K 14 - Manually slice meat

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get knife	G18E	27	1	27
2	Move knife to meat	P18C	42	N	42N
3	Move knife through meat	P18B10	22	3N	66N
4	Get sliced meat	G18S	19	N	19N
5	Place meat in pan	P18L	32	N	32N
6	Steel knife	K12	555	N/30	19N
7	Aside knife in holder	P18L	32	1	32
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes:		Sheet total	$59 + 178N$
		Grand total	$59 + 178N$

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TABLE 2.--Basic normal time values for common work elements--Continued

K 15 - Rinse pan

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get faucet handle	G18S	19	1	19
2	Move handle to open	M2B	5	1	5
3	Release handle	RL1	2	1	2
4	Move pan under water	M18B	17	1	17
5	Wash	nt	84	1	84
6	Get faucet handle	G18S	19	1	19
7	Move handle to close	M2B	5	1	5
8	Release handle	RL1	2	1	2
9	Place pan on table	P18B	19	1	19
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		172
			Grand total		172

49

TABLE 2.--Basic normal time values for common work elements--Continued

K 16 - Dredge meat

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get 3 pans and place beside meat pan 4 1/	K13	191	1	191
2	Get pan 2 from stack	G5D	28	1	28
3	Place pan 2	P26B	24	1	24
4	Get pan 1 from stack	G26D	42	1	42
5	Place pan 1	BD1	18	1	18
6	Place pan 1	P12B	15	1	15
7	Get flour bag from overshelf	G26E	32	1	32
8	Flour to pan 3	BD1	18	1	18
9	Position flour over pan 3	P12B10	18	1	18
10	Turn flour bag to pan	PT135M	14	1	14
11	Pour flour into pan 3	nt	56	1	56
12	Turn flour bag upright	PT135M	14	1	14
13	Return flour bag to overshelf	BD1	18	1	18
14	Put bag on shelf	P12L10	29	1	29
15	Get flour pan 3	BD1	18	1	18
16	Grasp flour pan	G8S	12	1	12
17	Pan to work sink and return	W30	70	2	140
18	Position pan under faucet	P12B10	18	1	18
19	Get faucet handle	G18S	19	1	19
20	Turn water on	P2B	7	1	7
21	Add water to flour	nt	228	1	228
22	Turn water off	GT45S	6	1	6
Notes: 1/ Pan 1 contains finished product, pan 2 contains cracker meal, pan 3 contains batter, pan 4 contains raw product.		Sheet total			965

51

TABLE 2.--Basic normal time values for common work elements--Continued

K 16 - Dredge meat--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Place pan on table	P12L10	29	1	29
2	Get mixer	G26E	32	1	32
3	Move mixer into pan	P26B	24	1	24
4	Mix batter	M26B	22	16	352
5	Turn mixer on and off	PfB	--	--	--
6	Move mixer under faucet	P26B	24	1	24
7	Get faucet handle, turn water on	S1L 19,20	26	1	26
8	Turn mixer on and off	PfB	4	2	8
9	Rinse beaters	nt	250	1	250
10	Aside mixer	P26B	24	1	24
11	Get cracker meal bag	G26S	25	1	25
12	Move bag to pan 2	P26B10	27	1	27
13	Turn bag to pour	P8B10	15	1	15
14	Pour cracker meal into pan 2	nt	84	1	84
15	Turn bag upright	P8B10	15	1	15
16	Return cracker meal to shelf	P26B10	27	1	27
17	Get meat from pan 4	BD2	32	N/2	16N
18	Grasp meat	G5E	18	N/2	9N
19	Put meat in batter pan 3	P18B	19	N/2	10N
20	Coat meat with batter	P5B	10	N/2	5N
21	Raise meat from batter	P5B	10	N/2	5N
22	Move meat against side of pan	P8B	13	N/2	7N
Notes:			Sheet total		962 + 52N

53

TABLE 2.--Basic normal time values for common work elements--Continued

K 16 - Dredge meat--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Meat into cracker pan 2	P12B	15	N/2	8N
2	Coat meat with cracker meal	nt	70	N	70N
3	Meat to pan 1	P18L	32	N/2	16N
4	2d piece of meat into pan	P5L	20	N/2	10N
5	Place meat in cooler	K4	300	1	300
6	Stack soiled pans	K8-1	38	3	114
7	Get stacked pans	G8S	12	1	12
8	Pans to pot sink	W30	70	1	70
9	Aside pans	P12B10	18	1	18
10	Return to work station	W30	70	1	70
11	Wash hands	K17	766	1	766
12	Clean work station	K11	846	1	846
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		2,196 + 104N
			Grand total		4,123 + 156N

55

TABLE 2.--Basic normal time values for common work elements--Continued

K 17 - Wash hands

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Walk to sink	W50	104	1	104
2	Get faucet handle	G18S	19	1	19
3	Turn water on	P2B	7	1	7
4	Wash hands	nt	300	1	300
5	Get faucet handle	G18S	19	1	19
6.	Turn water off	P2B	7	1	7
7	Get towel	G26S	25	1	25
8	Towel to other hand	P26B	24	1	24
9	Wipe hands	nt	198	1	198
10	Aside towel	P26B	24	1	24
11	Towel in hip pocket	P2B	7	2	14
12	Hand to front	G26S	25	1	25
13	Return to work station 1/	W50	--	--	--
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ Completed while wiping hands.			Sheet total		766
			Grand total		766

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TABLE 2.--Basic normal time values for common work elements--Continued

K 18 - Deep fry; nonpressurized fryer

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Turn and walk to deep fryer	WO3	70	1	70
2	Get fry basket	G18S	19	1	19
3	Place meat in basket	P8B	13	1	13
4	Place basket in fryer	P12L	26	1	26
5	Fry	nt	--	--	--
6	Return to work station	WO3	70	1	70
7	Turn and walk to fryer	WO3	70	1	70
8	Get fry basket	G18S	19	1	19
9	Raise basket from oil	M8B	11	1	11
10	Inspect product	ET	20	1	20
11	Lower basket in oil	P8B	13	1	13
12	Return to work station	WO3	70	1	70
13	Turn and walk to fryer	WO3	70	1	70
14	Get basket	G18S	19	1	19
15	Raise basket from oil	M8B	11	1	11
16	Move basket up and down	M6B	9	4	36
17	Get plate while moving basket	G12E	--	--	--
18	Move basket over plate or pan	M12B	13	1	13
19	Rotate basket to dump	T135M	12	1	12
20	Replace basket in fryer	P18B	19	1	19
21	Return to work station	WO3	70	1	70
22					
Notes:		Sheet total			651
		Grand total			651

TABLE 2.—Basic normal time values for common work elements—Continued

K 18-1 - Deep fry; nonpressurized fryer with Btu sensor

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Place product in fryer; re K 18	S1L 1-4	--	--	128
2	Get Btu sensor switch	M26C	27	1	27
3	Depress start switch	MfA	2	1	2
4	Remove product; re K 18	S1L 12-21	--	--	320
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		477
			Grand total		477

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TABLE 2.--Basic normal time values for common work elements--Continued

K 19 - Open can and empty

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get 1 can	G12S	15	1	15
2	Place can in can opener	P18C10	46	1	46
3	Get control handle	G8S	12	1	12
4	Move handle down	M4A	6	1	6
5	Open can	nt	224	1	224
6	Move handle up	M4A	6	1	6
7	Release handle	RL1	2	1	2
8	Get lid	G8S	12	1	12
9	Lid to trash	K28	116	1	116
10	Get can of soup	G18S	19	1	19
11	Move can over pot	M18B	17	1	17
12	Rotate can to pour	T135M	12	1	12
13	Pour	nt	56	1	56
14	Can to trash	K28	116	1	116
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		659
			Grand total		659

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TABLE 2.--Basic normal time values for common work elements--Continued

K 20 - Cook with pot or pan

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get burner knob	G18S	19	1	19
2	Turn knob on	PT18OS	11	1	11
3	Cook	nt	--	--	--
4	Turn and walk to stove	WO5	104	3	312
5	Get spoon	G18E	27	3	81
6	Move spoon into pot	M18A	18	3	54
7	Stir product	M18B	17	3	51
8	Fill spoon with product	M18B	17	2	34
9	Spoon from pot	M18B	17	2	34
10	Inspect food for sufficient cooking	nt	230	2	460
11	Return product to pot	M18A	18	2	36
12	Aside spoon	P18B	19	3	57
13	Bend to see flame	BD2	32	1	32
14	Get burner knob	G18S	--	--	--
15	Adjust flame	nt	35	1	35
16	Arise from bend	BD2	32	1	32
17	Turn and walk to stove	WO5	104	1	104
18	Get burner knob	G18S	19	1	19
19	Turn knob off	PT9OS	7	1	7
20					
21					
22					
Notes:			Sheet total		1,378
			Grand total		1,378

65

TABLE 2.--Basic normal time values for common work elements--Continued

K 21 - Dish up food item

Line	Motion description	Code	Unit time	Fre-quency	Total time
			__TMU__	__Number__	__TMU__
1	Turn and walk to steamtable	W50	104	1	104
2	Get serving ladle (right hand)	G8S	--	--	--
3	Get bowl (left hand)	G18E	27	1	27
4	Move ladle through food and up	M16B	16	1	16
5	Rotate ladle to empty	T165S	9	1	9
6	Return ladle	P8B	13	1	13
7	Place bowl on counter	P26B	24	1	24
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		193
			Grand total		193

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TABLE 2.--Basic normal time values for common work elements--Continued

K 22 - Empty 10- to 20-lb bag into pan

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get top of bag	G18E	27	1	27
2	Pull bag open	P18B10	22	1	22
3	Get bag	G18S	19	1	19
4	Move bag over pan	M18B20	26	1	26
5	Empty bag into pan	nt	280	1	280
6	Aside bag	P26B	24	1	24
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		398
			Grand total		398

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TABLE 2.--Basic normal time values for common work elements--Continued

K 22-1 - Empty 1- to 10-1b bag into pan

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get and open bag; re K 22	S1L 1-3	68	1	68
2	Move bag over pan	M18B0	20	1	20
3	Empty bag into pan	nt	140	1	140
4	Aside bag	P26B	24	1	24
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		252
			Grand total		252

TABLE 2.--Basic normal time values for common work elements--Continued

K 23 - Prerinse ingredients 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get faucet handle	G18S	19	1	19
2	Move handle to open	M2B	5	1	5
3	Release handle	RL1	2	1	2
4	Get ingredient	G18E	27	A	27A
5	Move under water	M18B	17	A	17A
6	Wash	nt	103	A	103A
7	Place back on table	P18B	19	A	19A
8	Get faucet handle	G18S	19	1	19
9	Move handle to off	M2B	5	1	5
10	Release handle	RL1	2	1	2
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ Does not include spinach, romaine, iceberg lettuce, and similar salad products.			Sheet total		52 + 166A
			Grand total		52 + 166A

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TABLE 2.--Basic normal time values for common work elements--Continued

K 24 - Fry with skillet

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To stove	WO2	53	1	53
2	Get oil ladle	G18S	19	1	19
3	Oil to skillet	P18B	19	1	19
4	Oil in skillet	nt	46	1	46
5	Get burner knob	G18S	19	1	19
6	Turn knob on	P2B	7	1	7
7	Cook	nt	- -	- -	- -
8	Return to stove	WO2	53	1	53
9	Get skillet	G18S	19	1	19
10	Lift to turn	M12B	13	1	13
11	Turn product	M12B	13	1	13
12	Place skillet on stove	P5B	10	1	10
13	Return to stove	WO2	53	1	53
14	Get burner knob	G18S	19	1	19
15	Turn knob off	P2B	7	1	7
16	Get spatula	G18S	19	1	19
17	Spatula to product	M18C	20	1	20
18	Move spatula under product	M5B	8	1	8
19	Get plate	G18E	27	1	27
20	Plate to center	M18B	17	1	17
21	Place product on plate	P18L	32	1	32
22	Aside spatula	P18L	32	1	32
Notes:			Sheet total		505
			Grand total		505

TABLE 2.--Basic normal time values for common work elements--Continued

K 25 - Toast and butter bread (2 slices)

Line	Motion description	Code	Unit time	Fre- quency	Total time
			TMU	Number	TMU
1	Turn and walk to toaster	W30	70	1	70
2	Get bread (2 slices with both hands)	G18A	31	1	31
3	Place bread in toaster	P12C	37	1	37
4	Reach to control handle	R8B	10	1	10
5	Move handle down	M3A	5	1	5
6	Toast	nt	--	--	--
7	Turn and walk to toaster	W30	70	1	70
8	Get plate	G18E	27	1	27
9	Place plate by toaster	P18B	19	1	19
10	Get toast	G18S	19	1	19
11	Get butter knife	G8S	12	1	12
12	Knife through butter	M8B	11	2	22
13	Knife to toast	M8B	11	2	22
14	Spread butter	M5B	8	4	32
15	Move knife to butter	M8B	11	1	11
16	Replace knife	P8B	13	.1	13
17	Place toast on plate	P8L	23	2	46
18					
19					
20					
21					
22					
Notes:			Sheet total		446
			Grand total		446

TABLE 2.--Basic normal time values for common work elements--Continued

K 26 - Open box

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get box flap	G12A	27	2	54
2	Tear box open	P12B10	18	2	36
3	Get box to turn	G12S	15	2	30
4	Turn box	P12B10	18	2	36
5	Tear flap open	S1L 1-2	--	--	90
6	Get flaps	G12S	15	4	60
7	Turn flaps down	P12B	15	4	60
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		366
			Grand total		366

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TABLE 2.--Basic normal time values for common work elements--Continued

K 26-1 - Open package

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get package flap	G12A	27	3	81
2	Tear package open	P12B10	18	3	54
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		135
			Grand total		135

TABLE 2.--Basic normal time values for common work elements--Continued

K 27 - Dish up cold food item from reach-in cooler

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Turn and walk to reach-in cooler	W50	104	1	104
2	Get plate	G18E	27	1	27
3	Plate to body	P8B	13	1	13
4	Get door handle	G18S	19	1	19
5	Open door	P18B	19	1	19
6	Position body	BD2	32	1	32
7	Get scoop from food	G18S	19	1	19
8	Move scoop through food	P18B	19	1	19
9	Scoop to plate	P18B	19	1	19
10	Turn scoop over	T180S	9	1	9
11	Depress scoop lever	P2B	7	2	14
12	Scoop to food	P18B	19	1	19
13	Get door	G18S	19	1	19
14	Close door	P18B	19	1	19
15	Turn and walk to counter	W50	104	1	104
16	Place plate on counter	P8B	13	1	13
17	Get garnish	G18D	37	G	37G
18	Lift from pan	P2B	7	G	7G
19	Shake moisture from garnish	T90S	5	3G	15G
20	Place garnish on plate	P18L	32	G	32G
21					
22					
Notes:			Sheet total		468 + 91G
			Grand total		468 + 91G

TABLE 2.--Basic normal time values for common work elements--Continued

K 28 - Item to trash

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Empty package to trash can	W20	53	1	53
2	Put package in trash can	P5B	10	1	10
3	Return to work station	W20	53	1	53
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		116
			Grand total		116

TABLE 2.--Basic normal time values for common work elements--Continued

K 29 - Item from storeroom

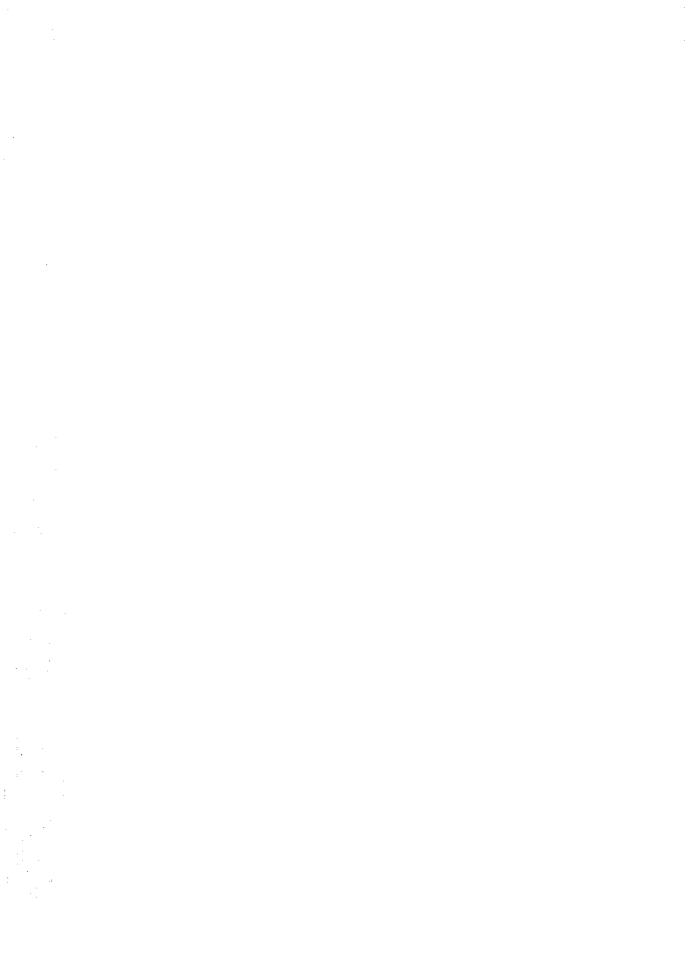| Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To storeroom and return	WO18	325	2	650
2	Get container	G26D	42	1	42
3	Lift container from shelf	P8B10	15	1	15
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		707
			Grand total		707

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TABLE 2.--Basic normal time values for common work elements--Continued

K 29-1 - Multiple items from storeroom with cart 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To cart	WO3	70	1	70
2	Push cart to storeroom	WC14	416	1	416
3	1st item on cart; re K 3-1	S1L 6-9	136	1	136
4	Additional items on cart; re K 3-1	S1L 10-11	89	A-1	89A-89
5	Get cart handle	G18S	19	1	19
6	Cart to work station	WC18	527	1	527
7	Walk to items on cart	WO2	46	1	46
8	Unload cart; re K 3-1	S2L 1-9	---	-	204+106A
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ 2 or more packages weighing over 30 lb or 3 or more cans.		Sheet total			1,329 + 195
		Grand total			1,329 + 195

89

TABLE 2.--Basic normal time values for common work elements--Continued

K 30 - Fill container with water

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Open faucet and place container; re K 15	S1L 1-4	43	1	43
2	Fill container 1/	nt	417	P	417P
3	Turn water off; re K 15	S1L 6-8	26	1	26
4	Get container	G18S	19	1	19
5	Move container from sink	M12B10	16	1	16
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ Based on water flow rate of 4 g/min (Alfred A. King, "Steam and Hot Water Heating," 1908.)			Sheet total		104 + 417P
			Grand total		104 + 417P

TABLE 2.--Basic normal time values for common work elements--Continued

K 31 - Item to steamtable

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get pan	G18S	19	1	19
2	Pan from table	P8B20	20	1	20
3	Pan to steamtable and return	W08	155	2	310
4	Place pan on steamtable	P8B20	20	1	20
5	Get empty pan in well	G18D	37	1	37
6	Aside empty pan	P26B	24	1	24
7	Get full pan	G26S	25	1	25
8	Place end of pan in well	P18L20	28	1	28
9	Lower pan into well	P8B20	20	1	20
10	Soiled pan to pot wash	K13	191	1	191
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		694
			Grand total		694

93

TABLE 2.--Basic normal time values for common work elements--Continued

K 32 - Baste

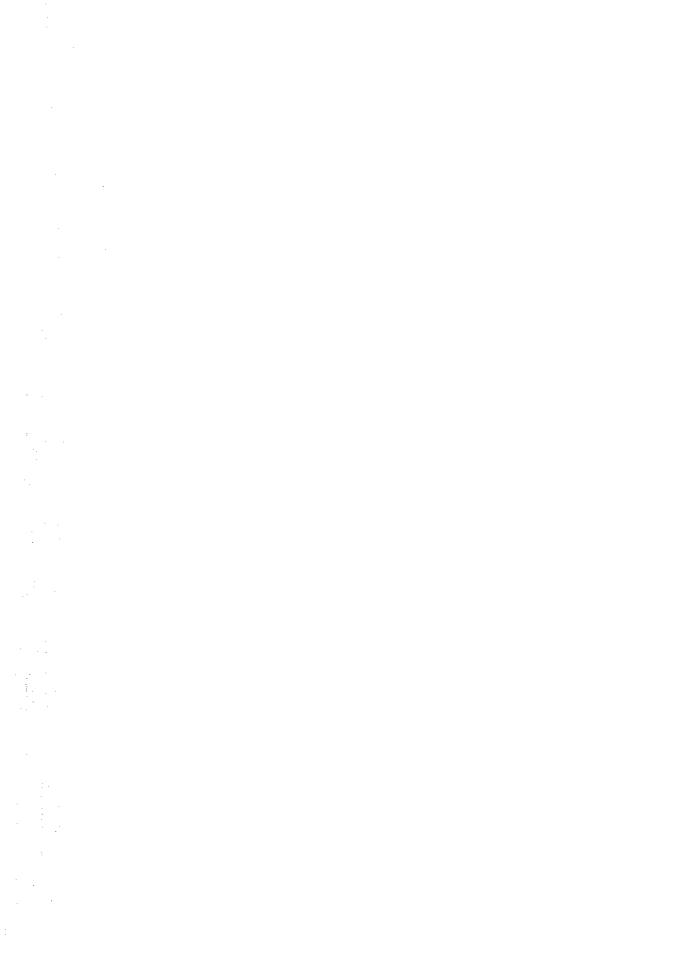| Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get basting brush	K8-1	38	1	38
2	Move brush over product	M53	8	3	24
3	Aside basting brush	K8-1	38	1	38
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		100
			Grand total		100

TABLE 2.--Basic normal time values for common work elements--Continued

K 33 - Garnish

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get garnish	G18D	37	G	37G
2	Lift from pan	P2B	7	G	7G
3	Shake moisture from garnish	PT90S	7	3G	21G
4	Place garnish on plate	P18L	32	G	32G
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes:

	Sheet total	97G
	Grand total	97G

TABLE 2.--Basic normal time values for common work elements--Continued

K 34 - Weigh dry ingredient

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Portion scale to center	K8-1	38	1	38
2	Get bin cover	G18S	19	1	19
3	Raise bin cover	P12B	15	1	15
4	Get scoop	G12S	15	1	15
5	Load scoop	M8B	11	1	11
6	Scoop to scale pan	M18B	17	1	17
7	Weigh	nt	32	W	32W
8	Return scoop to bin	P18B	19	1	19
9	Close bin cover	S1L 2-3	34	1	34
10	Get scale pan	K8-1	38	1	38
11	Pour into pan	nt	20	1	20
12	Replace pan on scale	P18L	32	1	32
13	Get scale	G8S	12	1	12
14	Scale aside	K8-1	38	1	38
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		308 + 32W
			Grand total		308 + 32W

99

TABLE 2.--Basic normal time values for common work elements--Continued

K 35 - Measure dry ingredient with measuring spoon or ladle

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get dry ingredient	K8-1	38	1	38
2	Move lid off can	P2B10	9	1	9
3	Get spoon	K8-1	38	1	38
4	Get knife	K8-1	38	1	38
5	Load measure	M12B	13	T	13T
6	Move knife to measure	M8B	11	T	11T
7	Remove excess	M5B	8	T	8T
8	Measure to pan	M18B	17	T	17T
9	Unload measure	M8A	10	T	10T
10	Aside measure	K8-1	38	1	38
11	Place lid on can	K8-2	61	1	61
12	Aside ingredient	K8-1	38	1	38
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes:			Sheet total		260 + 59T
			Grand total		260 + 59T

BASIC STANDARD TIME VALUES FOR
POPULAR BREAKFAST MENU ITEMS

Table 3 summarizes the basic standard time values for preparing and processing various breakfast menu items. Preparation includes such tasks as cutting and mixing ingredients for menu items and is normally performed prior to meal periods and actual plating of these items for consumption by . the general public. Process includes tasks performed to produce menu items for consumption during the meal period. Table 4 gives the basic standard time values for USD motions in preparing and processing various breakfast menu items. The prefix code B indicates a separate or an a la carte menu item on the bill of fare and the prefix code Bk a menu item that is part of an order.

An explanation of the symbols used in these tables follows:

N ---- Number of pieces per menu portion or serving
R ---- 1 divided by number of portions per package or container
S ---- 1 divided by number of menu portions per batch
X ---- Standard man-hours to prepare 100 items
Y ---- Standard man-hours to process 100 items

TABLE 3.—Summary of basic standard time values for popular breakfast menu items

Code	Menu item description	Preparation time Man-hours	Process time Man-hours	Total Man-hours
B 1	Bacon, side order; griddle	$0.121N + 0.946R + 1.130S$	$0.274 + 0.082N$	$0.274 + 0.203N + 0.946R + 1.130S$
B 2	Cereal, dry; portioned box	---	.606	.606
B 3	Coffee; 5-gal manual drip urn	.042	(1/)	.042
B 4	Coffee; 3-gal manual drip urn	.057	(1/)	.057
B 5	Coffee 5-gal automatic drip urn	.010	(1/)	.010
	3-gal automatic drip urn or percolator type	.017	(1/)	.017
B 6	Coffee; 12-cup server type	.116	(1/)	.116
B 7	Eggs, fried (2); griddle	---	.919	.919
B 7-1	Eggs, fried (3); griddle	---	1.175	1.175
B 7-2	Eggs, fried (2); skillet	---	.964	.964
B 7-3	Eggs, fried (3); skillet	---	1.104	1.104
B 8	Eggs, poached (2); pan	---	1.061	1.061
B 9	French toast	---	1.104	1.104
B 10	Grapefruit, not sectioned	$.143 + 2.259S$	(1/)	$.143 + 2.259S$

TABLE 3.--Summary of basic standard time values for popular breakfast menu items--Continued

Code	Menu item description	Preparation time Man-hours	Process time Man-hours	Total Man-hours
B 11-----	Ham, presliced, side order-----	---	.783	.783
B 12-----	Hash, 6 oz, side order-----	.622	.783	1.405
B 13-----	Omelette, plain-----	---	1.383	1.383
B 14-----	Omelette, cheese-----	---	1.540	1.540
B 15-----	Omelette, ham-----	3.328S	1.449	1.449 + 3.328S
B 15-1--	Omelette, ham and cheese-----	3.328S	1.605	1.605 + 3.328S
B 16-----	Omelette, Denver or western-----	5.979S	1.521	1.521 + 5.979S
B 17-----	Pancakes, plain, 3 per order-----	.306	.780	1.086
B 18-----	Pancakes, corncakes, 3 per order-----	.339	.849	1.188
B 19-----	Pancakes, blueberry, 3 per order-----	.328	.849	1.177
B 20-----	Potatoes, hashed brown, side order-----	2.090S	.389	.389 + 2.090S
B 21-----	Sausage, link, side order-----	.025N + 1.110R + 1.354S	.274 + .082N	.274 + .107N + 1.110R + 1.354S
B 21-1--	Sausage, patty, side order-----	.068 + .329N + 2.525S	.274 + .082N	.342 + .411N + 2.525S
B 22-----	Toast with jelly packet; hand buttered, side order-----	---	.723	.723

See footnote at end of table.

TABLE 3.--Summary of basic standard time values for popular breakfast menu items--Continued

Code	Menu item description	Preparation time	Process time	Total
		Man-hours	Man-hours	Man-hours
B 22-1--	Toast with butter pat and jelly packet, side order----	---	.590	.590
B 23----	Waffle, side order----	.102	.566	.668
Bk 1----	Bacon; griddle----	$.121N + .946R + 1.130S$	$.105 + .082N$	$.105 + .203N + .946R + 1.130S$
Bk 11--	Ham, presliced----	---	.616	.616
Bk 12---	Hash, 6 oz----	.622	.616	1.238
Bk 17---	Pancakes, plain, 3 per order----	.306	.613	.919
Bk 18--	Pancakes, corncakes, 3 per order----	.339	.682	1.021
Bk 19--	Pancakes, blueberry, 3 per order----	.328	.682	1.010
Bk 20---	Potatoes, hashed brown----	$2.090S$	.222	$.222 + 2.090S$
Bk 21---	Sausage, link----	$.025N + 1.110R + 1.354S$	$.105 + .082N$	$.105 + .107N + 1.110R + 1.354S$
Bk 21-1-	Sausage, patty----	$.068 + .329N + 2.525S$	$.105 + .082N$	$.173 + .411N + 2.525S$
Bk 22---	Toast with jelly packet, hand buttered----	---	.460	.460

See footnote at end of table.

Code	Menu item description	Preparation time	Process time	Total
		Man-hours	Man-hours	Man-hours
Bk 22-1	Toast with butter pat and jelly packet------	---	.419	.419
Bk 23---	Waffle------	.102	.399	.501

1/ Process time is part of waitress-service task or indirect labor.

TABLE 4.--Basic standard time values for popular breakfast menu items

B 1 - Bacon, side order; griddle

Line	Motion description	Code	Unit time	Frequency	Total time
			TMU 1/	Number	TMU
1	Get bacon from reach-in cooler (2 pkgs.)	K2	193+28A	A=2 R	249R
2	Open package	K26-1	135	2R	270R
3	Package to trash	K28	116	2R	232R
4	Get bacon	G18S	19	2R	38R
5	Move bacon over griddle	M18B	17	2R	34R
6	Get bacon strip	G12D	33	N	33N
7	Move strip over griddle	M12B	13	N	13N
8	Place strip on griddle	P12L	26	N	26N
9	Get spatula	G12S	15	S	15S
10	Turn bacon (3 rashers); re K 5	S1L 7-9	34	N/3	11N
11	Aside spatula	P12B	15	S	15S
12	Get pan	K13	191	S	191S
13	Get spatula	G12S	15	S	15S
14	Remove bacon from griddle; re K 5	S1L 12,13,16	67	N/3	22N
15	Clean griddle; re K 5	S1L 17-19	53	S	53S
16	Bacon to steamtable	K31	694	S	694S
17	Total preparation	--	--	--	2/ (105N + 823R + 983S)
18	To steamtable	W02	53	1	53
19	Get tongs	G18S	19	1	19
20	Get plate	G18S	--	--	--
21	Tongs to bacon	M18C	20	N	20N
22	Pick up rasher	G5D	28	N	28N
Notes: 1/ Time measurement units. 2/ Not included in totals.			Sheet total		72 + 153N + 823R + 983S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 1 - Bacon, side order; griddle--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU 1/	Number	TMU
1	Rasher to plate	P8L	23	N	23N
2	Aside tongs	P18B	19	1	19
3	Order to pickup station	K10	147	1	147
4	Total process	--	--	--	$(283 + 71N)$
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Time measurement units.

$\bar{X} = 0.121N + 0.946R + 1.130S$

$Y = 0.274 + 0.082N$

Sheet total	$166 + 23N$
Grand total	$238 + 176N + 823R + 983S$

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 2 - Cereal, dry; portioned box

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To milk pitcher storage	W08	155	1	155
2	Get milk pitcher	G18S	19	1	19
3	Pitcher under spout	M18C	20	1	20
4	Get milk dispenser handle	G8S	12	1	12
5	Depress handle	M4A	6	1	6
6	Fill pitcher	nt	56	1	56
7	Handle off	M4A	6	1	6
8	Move to bowls	BD2	32	1	32
9	Get bowl and aside	K8-1	38	1	38
10	Get cereal and place in bowl	K8-1	38	1	38
11	Order to pickup station	K10	145	1	145
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: Y = 0.606

Sheet total		527
Grand total		527

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 3 - Coffee; 5-gal manual drip urn 1/

Line	Motion description	Code	Unit time	Fre- quency	Total time
			TMU	Number	TMU
1	To coffee urn	WO3	70	1	70
2	Get lid	G26S	25	1	25
3	Place lid aside	P26B	24	1	24
4	Get water reservoir	G18S	19	1	19
5	Reservoir aside	P18B	19	1	19
6	Get filter	G12E	22	1	22
7	Place filter in basket	P26E	76	1	76
8	Get bag of coffee	G18E	27	1	27
9	Move bag to center	M12B	13	1	13
10	Get bag top	G5S	10	1	10
11	Tear bag open	M8B	11	1	11
12	Move bag over urn	M26C	27	1	27
13	Empty bag	nt	84	1	84
14	Bag to trash	K28	116	1	116
15	Get pan to water	K8-1	38	1	38
16	Get hot water handle	G18S	19	3	57
17	Open faucet	P2B	7	3	21
18	Fill pan; re K 30	S1L 2	417P	P=5	2,085
19	Get hot water handle	G18S	19	3	57
20	Close faucet	P2B	7	3	21
21	Get pan of water	G8S	12	3	36
22	Move pan over urn	M26C10	31	3	93
Notes:1/ 640-oz batch + 5½-oz cups = 116 cups.		Sheet total			2,951

TABLE 4.--Basis standard time values for popular breakfast menu items--Continued

B 3 - Coffee, 5-gal manual drip urn 1/--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Pour water into urn	nt	84	3	252
2	Place pan under coffee spigot	P26L	38	1	38
3	Water through coffee	nt	--	--	--
4	Get water reservoir	G18S	19	1	19
5	Reservoir aside	P18B	19	1	19
6	Get coffee basket	G18E	27	1	27
7	Lift basket from urn	M8A	10	1	10
8	Basket to trash can	BD2	32	1	32
9	Empty basket	nt	84	1	84
10	Rinse basket	K15	172	1	172
11	Place basket in urn	P26L	38	1	38
12	Get water reservoir	G18S	19	1	19
13	Place reservoir on basket	P18L	32	1	32
14	Get coffee handle	G18S	19	1	19
15	Open faucet	P2B	7	1	7
16	Fill pan with coffee	nt	336	1	336
17	Get pan of coffee	G8S	12	1	12
18	Move pan over urn	M26C10	31	1	31
19	Pour coffee into urn	nt	84	1	84
20	Aside pan	M26B	22	1	22
21	Get electric switch	G18S	19	2	38
22	Turn switch on and off	P2B	7	2	14

Notes: 1/ 640-oz batch ÷ 5½-oz cups = 116 cups.
$\overline{X}$ = 0.042.

| Sheet total | 1,305 |
| Grand total | 4,256 |

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 4 - Coffee; 3-gal manual drip urn 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Fill urn with coffee; re B 3	S1L 1-17	--	--	659
2	Fill pan with water; re K 30	S1L 2	417P	P=3	1,251
3	Pan to urn; re B 3	S1L 19-22	--	--	207
4	Complete cycle; re B 3	S2L 1-22	--	--	1,305
5					
6					
7					
8					
9					
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11					
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13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ 384-oz batch ÷ 5½-oz cups = 69 cups.
$\bar{X}$ = 0.057

Sheet total	3,422
Grand total	3,422

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 5 - Coffee; 5-gal automatic drip urn, 3-gal automatic drip urn or percolator type

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To urn and lid aside; re B 3	S1L 1-3	--	--	119
2	Remove, wash, replace basket; re B 3	S2L 6-11	--	--	363
3	Get and place filter and coffee; re B 3	S1L 6-14	--	--	386
4	Replace lid; re B 3	S1L 2-3	--	--	49
5	Turn water on; re B 3	S1L 16-17	26	1	26
6	Brew coffee	nt	--	--	--
7	Turn water off; re B 3	S1L 19-20	26	1	26
8	Turn power on and off; re B 3	S2L 21-22	--	--	52
9					
10					
11					
12					
13					
14					
15					
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17					
18					
19					
20					
21					
22					

Notes: X = 0.010: 5 gal (116 cups)
X = 0.017: 3 gal (69 cups)

Sheet total

Grand total

121

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 6 - Coffee; 12-cup server type

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To beverage station	WO11	206	1	206
2	Server to sink	K8-1	38	1	38
3	Rinse server	K15	172	1	172
4	Get coffee basket	G12S	15	1	15
5	Basket to trash	BD2	32	1	32
6	Empty basket	nt	84	1	84
7	Basket to sink	BD2	32	1	32
8	Rinse basket	K15	172	1	172
9	Basket to counter	P18B	19	1	19
10	Get and place filter and coffee; re B 3	S1L 6-14	--	--	386
11	Get filled basket	G8S	12	1	12
12	Place basket in machine	P18L	32	1	32
13	To start button	R12A	10	1	10
14	Depress start button	MfA	2	1	2
15					
16					
17					
18					
19					
20					
21					
22					

Notes: X = 0.116

Sheet t(

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 7 - Eggs, fried (2); griddle

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To griddle	W02	53	1	53
2	Get oil dipper	G12S	15	1	15
3	Dipper to griddle	M8B	11	1	11
4	Turn dipper	T135S	7	1	7
5	Move dipper while pouring	M5B	8	1	8
6	Return dipper	P12L	26	1	26
7	Get eggs (2) (1 in each hand)	G12E	22	1	22
8	Break eggs against bowl	M12C	15	1	15
9	Open eggs in bowl	nt	70	1	70
10	Shells aside	P12B	15	1	15
11	Get bowl	G12S	15	1	15
12	Bowl to grill	M18B	17	1	17
13	Turn bowl	T135S	7	1	7
14	Move bowl while pouring	M5B	8	1	8
15	Aside bowl	P18B	19	1	19
16	Fry; re K 5	S1L 6-19	144 + 101N	N=2	346
17	Order to pickup station	K10	145	1	145
18					
19					
20					
21					
22					

Notes: Y = 0.919

	Sheet total	799
	Grand total	799

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 7-1 - Eggs, fried (3); griddle

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Place oil on griddle; re B 7	S1L 1-6	--	--	120
2	Open eggs; re B 7	S1L 7-10	122	2	244
3	Eggs on griddle; re B 7	S1L 11-15	--	--	66
4	Fry; re K 5	S1L 6-19	$144 + 101N$	N=3	447
5	Order to pickup station	K10	145	1	145
6					
7					
8					
9					
10					
11					
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16					
17					
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19					
20					
21					
22					
Notes: $Y = 1.175$			Sheet total		1,022
			Grand total		1,022

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 7-2 - Eggs, fried (2); skillet

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Open eggs - put in bowl; re B 7	S1L 7-10	--	--	122
2	Place eggs in skillet; re B 7	S1L 11-15	--	--	66
3	Fry with skillet	K24	505	1	505
4	Order to pickup station	K10	145	1	145
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: $Y = 0.964$ Sheet

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 7-3 - Eggs, fried (3); skillet

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Open eggs, put in bowl; re B 7	S1L 7-10	122	2	244
2	Place, fry, plate, and deliver; re B 7-2	S1L 2-4	--	--	716
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: Y = 1.104			Sheet total		960
			Grand total		960

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 8 - Eggs, poached (2); pan

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	To stove	WO2	53	1	53
2	Place eggs in pan; re B 7	S1L 7-15	188	1	188
3	Poach eggs	nt	--	--	--
4	Return to stove	WO2	53	1	53
5	Get and place plate	K8-1	38	1	38
6	Get perforated ladle	G18S	19	1	19
7	Remove ladle from hanger	M2B	5	1	5
8	Ladle to other hand	G18T	23	1	23
9	Grasp ladle handle	G12N	17	1	17
10	Move ladle to pan	M18B	17	1	17
11	Move ladle to egg	M8C	12	1	12
12	Position ladle under egg	P1SE	6	1	6
13	Lift egg from pan	M5B	8	1	8
14	Allow egg to drain	nt	75	1	75
15	Place eggs on plate or other food item	P18L	32	1	32
16	Remove 2d egg from pan	S1L 10-15	150	1	150
17	Regrasp ladle to aside	S1L 8-9	40	1	40
18	Place ladle on hanger	P18C	42	1	42
19	Order to pickup station	K10	145	1	145
20					
21					
22					
Notes: Y = 1.061			Sheet t		
			Grand		

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 9 - French toast 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Turn and walk to griddle	WO2	53	1	53
2	Get egg	G12E	22	1	22
3	Move egg against bowl to break	M12C	15	1	15
4	Move egg over bowl	M3B	6	1	6
5	Grasp with left hand	G1A	2	1	2
6.	Move eggshell apart	M2B	5	1	5
7	Aside eggshell	P8B	13	1	13
8	Get vanilla	G12E	22	1	22
9	Move vanilla over bowl	M12C	15	1	15
10	Rotate bottle to pour	T150S	8	1	8
11	Rotate bottle upright	T150S	8	1	8
12	Place bottle on table	P12B	15	1	15
13	Get sugar	G8S	12	1	12
14	Move sugar over bowl	M12C	15	1	15
15	Rotate box to pour	T150S	8	1	8
16	Rotate box upright	T150S	8	1	8
17	Place box on table	P12B	15	1	15
18	Get salt and pepper (both hands)	G8S	12	1	12
19	Move to bowl	M12C	15	1	15
20	Rotate shakers	T150S	8	1	8
21	Move up and down	M2B	5	3	15
22	Rotate shakers	T150S	8	1	8
Notes: 1/ 2 pieces of bread, 1 egg, fried on griddle.		Sheet total			300

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 9 - French toast 1/--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Place shakers on table	P12B	15	1	15
2	Get fork	G12S	15	1	15
3	Move fork into bowl	M8B	11	1	11
4	Beat contents	nt	98	1	98
5	Get bread (2 slices)	G12E	22	1	22
6	Place 1 slice in bowl	P12B	15	2	30
7	Place fork in bread	P2B	7	2	14
8	Move bread up	M4B	7	2	14
9	Move bread onto other side	M4B	7	2	14
10	Place fork into bread	P2B	7	2	14
11	Place bread on griddle	P8B	13	2	26
12	Move fork back to bowl	M8B	11	1	11
13	Place fork in bowl	P8B	13	1	13
14	Fry	nt	--	--	--
15	Turn and walk to griddle	WO2	53	1	53
16	Get spatula	G12S	15	1	15
17	Move spatula under toast	M12A	13	1	13
18	Move toast up to turn	M6B	9	2	18
19	Rotate spatula	T150S			
20	Move spatula to 2d slice	M6A			
21	Aside spatula				
22	Fry				

Notes: 1/ 2 pieces of bread, 1 egg, fried on griddle.

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 9 - French toast 1/--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Turn and walk to griddle	WO2	53	1	53
2	Get spatula	G12S	15	1	15
3	Move spatula under toast (1st)	M12A	13	1	13
4	Move toast on top of other piece	M6B	9	1	9
5	Move spatula under toast (2d)	M12B	13	1	13
6	Place toast on plate	P18L	32	1	32
7	Aside spatula	P8B	13	1	13
8	Get plate while asiding spatula	G8S	--	--	--
9	Turn and walk to counter	WO2	53	1	53
10	Place plate on counter	P26B	24	1	24
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ 2 pieces of bread, 1 egg, fried on griddle. Y = 1.104		Sheet total			
		Grand total			

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 10 - Grapefruit, not sectioned

Motion description	Code	Unit time TMU	Frequency Number	Total time TMU
Obtain grapefruit from walk-in cooler	K3	985	S	985S
Open box	K26	366	1/30	5
Box to trash	K28	116	1/30	1
Get knife	G18S	19	1/24	1
Grasp grapefruit	G5S	10	1/2	5
Position knife	M18C	20	1/2	10
Cut grapefruit in half	M12C	15	1/2	8
Aside knife	P18L	32	1/24	1
Get sheet pans	K13	191	S	191S
Get stack of plates	G18E	27	1/12	2
Plates to center	P18B10	22	1/12	2
Get 1st plate	G18E	27	1/2	14
Move 1st plate off stack	M5B	8	1/2	4
Get 2d plate	G5E	18	1/2	9
Place plates (2) on pan	P18L	32	1/2	16
Place grapefruit on plates	K8-1	38	1/2	19
Aside extra plates	K8-1	38	1/24	2
Place grapefruit in reach-in cooler	K4	300	1/12	25
Clean work station	K11	848	S	848S
		Sheet total		124 + 1,964S
		Grand total		124 + 1,964S

Notes: $X = 0.143 + 2.259$

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 11 - Ham, presliced, side order

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Ham from reach-in cooler	K1	199	1	199
2	Fry ham on griddle	K5	168 + 169N	N=1	337
3	Order to pickup station	K10	145	1	145
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: $Y = 0.783$			Sheet total		681
			Grand total		681

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 12 - Hash, 6 oz, side order 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Get No. 10 can from storeroom	K29	707	1/12	59
2	Get steamtable pan	K13	191	1/12	16
3	Open can	K19	659	1/12	55
4	Get No. 8 scoop	G18E	27	1/12	2
5	Scoop to center	P18B	19	1/12	2
6	Scoop into can	M12B	13	2	26
7	Scoop to other hand	M12A	13	2	26
8	Remove excess hash	M5B	8	2	16
9	Hash aside	M18B	17	2	34
10	Depress scoop lever	M2A	4	2	8
11	Scoop to sink and return	W02	53	2/12	9
12	Wash scoop	K15	172	1/12	14
13	Get, shape, and aside on pan	nt	185	1	185
14	Place hash in reach-in cooler	K4	300	1/12	25
15	Wash hands	K17	766	1/12	64
16	Total preparation	--	--	--	(541)
17	Get hash from reach-in cooler	K1	199	1	199
18	Fry hash	K5	168 + 169N	N=1	377
19	Order to pickup station	K10	145	1	145
20	Total process	--	--	--	(681)
21					
22					

Notes: 1/ No. 8 scoop used to portion servings.

$\overline{X}$ = 0.622

Y = 0.783

Sheet total	1,222
Grand total	1,222

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 13 - Omelette, plain

Line	Motion description	Code	Unit time TMU	Frequency Number	Total time TMU
1	Get and place pan	K8-1	38	1	38
2	Place oil in pan; re B 7	S1L 2-6	--	--	67
3	Place eggs in bowl; re B 7	S1L 7-11	--	--	137
4	Get milk	G18S	19	1	19
5	Milk to pan	M18B	17	1	17
6	Pour milk	T90S	5	2	10
7	Aside milk	P18B	19	1	19
8	Get whip	K8-1	38	1	38
9	Beat eggs	M12B	13	8	104
10	Aside whip	K8-1	38	1	38
11	Place eggs in pan; re B 7	S1L 11-15	--	--	66
12	Fry in skillet	nt	--	--	--
13	Cook with skillet	K24	505	1	505
14	Order to pickup station	K10	145	1	145
15					
16					
17					
18					
19					
20					
21					
22					
Notes: Y = 1.383			Sheet total		1,203
			Grand total		1,203

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 14 - Omelette, cheese

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Make plain omelette; re B 13	S1L 1-14	--	--	1,203
2	Get slice of cheese	G18E	27	1	27
3	Move cheese over egg	M18A	18	1	18
4	Get cheese	G2S	6	7	42
5	Tear cheese off	P2B	7	7	49
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: Y = 1.540			Sheet total		1,339
			Grand total		1,339

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 15 - Omelette, ham

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	. TMU
1	Ham slices from reach-in cooler	K1	199	S	199S
2	Get knife	G18S	19	S	19S
3	Knife to center	M18B	17	S	17S
4	Position knife on meat	M8C	12	32S	384S
5	Cut meat	M8B	11	32S	352S
6	Aside knife	P18L	32	S	32S
7	Get pan	K13	191	S	191S
8	Hands to ham	M18B	17	2S	34S
9	Pick up ham	M5A	7	2S	14S
10	Ham to pan	P18B	19	2S	38S
11	Clean work station	K11	848	S	848S
12	Wash hands	K17	766	S	766S
13	Total preparation	--	--	--	(2,894S)
14	Make plain omelette; re B 13	S1L 1-14	--	--	1,203
15	Get and place ham	K8-1	38	1	38
16	Return ladle to ham	P18B	19	1	19
17	Total process	--	--	--	(1,260)
18					
19					
20					
21					
22					

Notes: $X = 3.328S$ $Y = 1.449$	Sheet total	1,260 + 2,894S
	Grand total	1,260 + 2,894S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 15-1 - Omelette, ham and cheese

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 15	S1L 13	--	--	2,894s
2	Process cheese omelette; re B 14	S1L 1-5	--	--	1,339
3	Get and place ham	K8-1	38	1	38
4	Return ladle to ham	P18B	19	1	19
5	Total process	--	--	--	(1,396)
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: X = 3.328s			Sheet total		1,396 + 2,894s
Y = 1.605			Grand total		1,396 + 2,894s

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 16 - Omelette, Denver or western 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Prepare ham cubes; re B 15	S1L 13	--	--	2,894S
2	Get green pepper from reach-in cooler	K1	199	S	199S
3	Open package	K22-1	252	S	252S
4	Package in trash	K28	116	S	116S
5	Get onions	K8-1	38	3S	114S
6	Get knife	G18S	19	S	19S
7	Knife to onion	M18C	20	3S	60S
8	Remove ends	M8B	11	6S	66S
9	Reposition knife on other end	M2C	5	3S	15S
10	Onion to center	M12B	13	3S	39S
11	Position knife under skin	P2SE	16	15S	240S
12	Skin off	P5B	10	15S	150S
13	Rotate onion	(2/)	15	15S	225S
14	Onion to table	M12B	13	3S	39S
15	Position knife	M5C	9	18S	162S
16	Slice onion	M8B	11	18S	198S
17	Grasp knife other hand	G8S	12	3S	36S
18	Chop onion	M5A	7	18S	126S
19	Pan to table edge	K8-1	38	S	38S
20	Knife to table	M12B	--	--	--
21	Chopped onion into pan	M18B	17	3S	51S
22	Aside knife	P18L	32	S	32S
	Notes: 1/ Ingredients: Chopped ham, frozen green pepper, whole onions.	Sheet total			5,071S

Notes: 1/ Ingredients: Chopped ham, frozen
green pepper, whole onions.
      2/ Sum of R2A, G2, M2B.

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 16 - Omelette, Denver or western 1/--Continued

Motion description	Code	Unit time	Fre-quency	Total time
		TMU	Number	TMU
-ide pan	P12B	15	S	15S
t ladle	K8-1	38	S	38S
x contents	4CS	56	S	56S
ide pan and ladle	P18B	19	S	19S
Total preparation	--	---	--	(5,199S)
eration, plain omelette; re B 13	S1L 1-14	--	--	1,203
t ladle	G18S	19	1	19
ove ladle up and through mix	M5B	8	1	8
adle to egg bowl	M12B	13	1	13
x into bowl	T90S	5	1	5
ide ladle	P18B	19	1	19
tate bowl to mix	4CS	56	1	56
Total process	--	---	--	(1,323)

/ Ingredients: Chopped ham, frozen pepper, whole onions. = 5.979S Y = 1.521	Sheet total	1,323 + 128S
	Grand total	1,323 + 5,199S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 17 - Pancakes, plain, 3 per order 1/

Motion description	Code	Unit time	Fre-quency	Total time
		TMU	Number	TMU
t flour from storage	K29	707	S	707S
t 2 additional bags; re K 29	S1L 2-3	57	2S	114S
t mixing pan	K13	191	S	191S
pty 6 lb of flour into pan	K22-1	252	3S	756S
t empty bags	K8-1	38	2S	76S
ace bags in trash	K28	116	3S	348S
ace eggs in pan; re B 7	S1L 7-10	122	6S	732S
: oil	K8-1	38	S	38S
: cap	G5S	--	--	--
10ve cap	GT90	7	6S	42S
> aside	P8B	13	S	13S
: measuring cup	K8-1	38	S	38S
. to cup	M18C	20	S	20S
n to pour	T90S	5	S	5S
r and measure oil	nt	150	S	150S
n oil upright	T90S	5	S	5S
de oil container	P18B	19	S	19S
into pan	K9	131	S	131S
sink and return	WO2	53	2S	106S
se measure cup	K15	172	S	172S
large measure	K8-1	38	S	38S
sink and return	WO2	53	2S	106S
Batch size (S) is 30 orders.	Sheet total			3,807S

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 17 - Pancakes, plain, 3 per order 1/--Continued

Motion description	Code	Unit time	Fre-quency	Total time
		TMU	Number	TMU
Fill measure with water	nt	727	S	727S
Move measure over pan	M8C	12	S	12S
Pour liquid	nt	100	S	100S
Aside measure	K8-1	38	S	38S
Mix batter; re K 16	S2L 2-10	740	S	740S
Get two 1-gal pitchers	K13	191	S	191S
Get batter pan	G18S	19	S	19S
Move batter pan over pitcher	M26C10	31	S	31S
Fill pitcher	nt	175	2S	350S
Move pan over 2d pitcher	M12C10	18	S	18S
Rinse mix pan and aside	K15	172	S	172S
Move batter to and from reach-in	K1	199	4S	796S
Get batter pitcher	G18S	19	6S	114S
Batter pitcher to pancake dispenser	M18C10	23	6S	138S
Fill pancake dispenser	nt	100	6S	600S
Aside pitcher	P18B10	22	6S	132S
Total preparation	--	--	--	(7,985S)
Get pancake dispenser	G18S	19	1	19
Move dispenser over grill	M18B	17	1	17
Depress dispenser plunger	M2B	5	3	15
Reposition dispenser over grill	M5B	8	2	16
Aside dispenser	P18B	19	1	19
1/ Batch size (S) is 30 orders.	Sheet total			86 + 4,178S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 17 - Pancakes, plain, 3 per order 1/--Continued

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Fry pancakes; re K 5	S1L 6-19	144 + 101N	N=3	447
2	Order to pickup station	K10	145	1	145
3	Total process	--	--	--	(678)
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Batch size (S) is 30 orders.
$\overline{X}$ = 0.306
Y = 0.780

	Total time
Sheet total	592
Grand total	678 + 7,985S

E 4.--Basic standard time values for popular breakfast menu items--Continued

B 18 - Pancakes, corncakes, 3 per order 1/

Motion description	Code	Unit time	Fre-quency	Total time
		TMU	Number	TMU
∋ pancake mix; re B 17	S2L 17	--	--	7,985S
ⅼ	K13	191	S	191S
ⅿ of corn and empty	K19	659	S	659S
ⅎ preparation	--	--	--	(8,835S)
ⅼon, pancakes; re B 17	S3L 3	--	--	678
ⅾful of corn	G18A	31	1/3	10
∋ pancakes	M18B	17	1/3	6
ⅼ pancakes	M2B	5	4	20
∋ next pancake	M5C	9	2	18
ⅹcess corn	P18B	19	1/3	6
ⅼ process	--	--	--	(738)

ch size (S) is 30 orders.	Sheet total	738 + 8,835S
339 849	Grand total	738 + 8,835S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 19 - Pancakes, blueberry, 3 per order 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Prepare pancake mix; re B 17	S2L 17	--	--	7,985S
2	Get pan	K13	191	S	191S
3	Open bag of blueberries	K22-1	252	S	252S
4	Bag to trash	K28	116	S	116S
5	Total preparation	--	--	--	(8,544S)
6	Total process; re B 18	S1L 11	--	--	738
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22			Sheet total		738 + 8,544S
			Grand total		738 + 8,544S

Notes: 1/ Batch size (S) is 30 orders.
$\overline{X}$ = 0.328
Y = 0.849

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 20 - Potatoes, hashed brown, side order 1/

ne	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Open box	K26	366	S	366S
2	Get pan	K13	191	S	191S
3	Fry	K5	168 + 169N	N=4 S	844S
4	Season	K6	158	S	158S
5	Get pan	G18S	19	S	19S
6	Pan from table	P5B10	13	S	13S
7	Potatoes to steamtable	WO3	70	S	70S
8	Place pan in well	P12C10	40	S	40S
9	Place box in trash	K28	116	S	116S
0	Total preparation	--	--	--	(1,817S)
1	Dish up food item	K21	193	1	193
2	Order to pickup station	K10	145	1	145
3	Total process	--	--	--	(338)
4					
5					
6					
7					
8					
9					
0					
1					
2					

tes: 1/ Prepare from 18-lb package.
  X = 2.090S
  Y = 0.389

Grand total	338 + 1,817S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 21 - Sausage, link, side order

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Sausage from reach-in cooler; re B 1	S1L 1-3	--	--	75IR
2	Move sausage over griddle	M18B	17	2R	34R
3	Place links on griddle	nt	90	2R	180R
4	Get spatula	G12S	15	2S	30S
5	Spatula to sausage	M18B	17	2S	34S
6	Roll sausages over	nt	65	2S	130S
7	Aside spatula	P12B	15	2S	30S
8	Pan sausages; re B 1	S1L 12-16	--	--	22N + 953S
9	Total preparation	--	--	--	(22N + 965R + 1,177S)
10	Total process; re B 1	S2L 4	--	--	238 + 71N
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: $X = 0.025N + 1.110R + 1.354S$
$Y = 0.274 + 0.082N$

Sheet total	238 +
Grand total	238

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TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 21-1 - Sausage, patty, side order

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
				A=2	
1	Sausage from reach-in cooler (2 pkgs.)	K2	193 + 28A	S	249S
2	Slice patties	K14	59 + 158N	1	59 + 158N
3	Get patty	G12S	15	N	15N
4	Patty to center	M12B	13	N	13N
5	Get patty wrapper	GfD	21	N	21N
6	Remove wrapper	M5B	8	N	8N
7	Place patty on griddle	P26L	38	N	38N
8	Turn and pan patties; re B 1	S1L 9-16	--	--	33N + 983S
9	Clean work station	K11	848	S	848S
10	Wrappers to trash	K28	116	S	116S
11	Total preparation	--	--	--	(59 + 286N + 2,196S)
12	Total process; re B 1	S2L 4	--	--	238 + 71N
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes:
$X = 0.068 + 0.329N + 2.525S$
$Y = 0.274 + 0.082N$

Sheet total	297 + 357N + 2,196S
Grand total	297 + 357N + 2,196S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 22 - Toast with jelly packet; hand buttered, side order

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Toast bread	K25	446	1	446
2	Get jelly packet and place	K8-1	38	1	38
3	Order to pickup station	K10	145	1	145
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: Y = 0.723			Sheet total		629
			Grand total		629

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 22-1 - Toast with butter pat and jelly packet, side order

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Toast bread; re K 25	S1L 1-8	250	1	250
2	Toast bread; re K 25	S1L 10,17	42	1	42
3	Get butter pat and jelly	K8-1	38	2	76
4	Order to pickup station	K10	145	1	145
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: $Y = 0.590$

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

B 23 - Waffle, side order 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 17	S2L 17	--	--	7,985S
2	Dispense over waffle iron; re B 17	S2L 18-22	86	1	86
3	Get lid	G18S	19	2	38
4	Close lid - open lid	P18B	19	2	38
5	Aside dispenser	P18B	19	1	19
6	Get fork	G18S	19	1	19
7	Fork to waffle	P18C	42	1	42
8	Move fork around edge	M26B	22	1	22
9	Move fork under waffle	M5B	8	3	24
10	Get plate	G18E	27	1	27
11	Waffle to plate	P18L	32	1	32
12	Order to pickup station	K10	145	1	145
13	Total process	--	--	--	(492)
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Batch size (S) is 90 waffles.

$\bar{X}$ = 0.102

$\bar{Y}$ = 0.566

Sheet total	492 + 7,985S
Grand total	492 + 7,985S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 1 - Bacon; griddle

Line	Motion description	Code	Unit time TMU	Fre-quency Number	Total time TMU
1	Total preparation; re B 1	S1L 17	--	--	105N + 823R + 983S
2	Process; re B 1	S1L 18-22	--	--	72 + 48N
3	Process; re B 1	S2L 1,2	--	--	19 + 23N
4	Total process	--	--	--	(91 + 71N)
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: $X = 0.121N + 0.946R + 1.130S$
$Y = 0.105 + 0.082N$

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 11 - Ham, presliced

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Process ham; re B 11	S1L 1-2	--	--	536
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: Y = 0.616			Sheet total		536
			Grand total		536

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 12 - Hash, 6 oz

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 12	S1L 16	--	--	541
2	Total process; re B 12	S1L 17-18	--	--	536
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: $X = 0.622$ $Y = 0.616$			Sheet total		1,077
			Grand total		1,077

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 17 - Pancakes, plain, 3 per order 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 17	S2L 17	--	--	7,985S
2	Process pancakes; re B 17	S2L 18-22	--	--	86
3	Process pancakes; re B 17	S3L 1	--	--	447
4	Total process	--	--	--	(533)
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Batch size (S) is 30 orders.
$\overline{X}$ = 0.306
Y = 0.613

Sheet total	533 + 7,985S
Grand total	533 + 7,985S

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 18 - Pancakes, corncakes, 3 per order 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 18	S1L 4	--	--	8,835S
2	Process pancakes; re B 17	S2L 18-22	--	--	86
3	Process pancakes; re B 17	S3L 1	--	--	447
4	Process pancakes; re B 18	S1L 6-10	--	--	60
5	Total process	--	--	--	(593)
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Batch size (S) is 30 orders.
$\overline{X}$ = 0.339
Y = 0.682

1

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 19 - Pancakes, blueberry, 3 per order 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 19	S1L 5	--	--	8,544e
2	Total process; re Bk 18	S1L 5	--	--	593
3					
4					
5					
6.					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: 1/ Batch size (S) is 30 orders.
$\overline{X}$ = 0.328
Y = 0.682

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 20 - Potatoes, hashed brown

Line	Motion description	Code	Unit time TMU	Frequency Number	Total time TMU
1	Total preparation; re B 20	S1L 10	--	--	1,817S
2	Total process; re B 20	S1L 11	--	--	193
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22			Sheet total		193 + 1,817S
			Grand total		193 + 1,817S

Notes: X = 2.090S
       Y = 0.222

193

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 21-1 - Sausage, patty

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 21-1	S1L 11	--	--	59 + 286N + 2,196S
2	Total process; re Bk 21	S1L 4	--	--	91 + 71N
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
	Sheet total				150 + 357N + 2,196S
	Grand total				150 + 357N + 2,196S

Notes: $X = 0.068 + 0.329N + 2.525S$
$Y = 0.105 + 0.082N$

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 22 - Toast, with jelly packet; hand buttered

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Toast bread; re K 25	S1L 1-7	223	1	223
2	Toast bread; re K 25	S1L 10-17	177	1	177
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes: $Y = 0.460$

| | Sheet total | 400 |
| | Grand total | 400 |

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 22-1 - Toast with butter pat and jelly packet

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Toast bread; re K 25	S1L 1-7	223	1	223
2	Toast bread; re K 25	S1L 10,17	65	1	65
3	Get butter pat and jelly packet	K8-1	38	2	76
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: Y = 0.419			Sheet total		364
			Grand total		364

TABLE 4.--Basic standard time values for popular breakfast menu items--Continued

Bk 23 - Waffle 1/

Line	Motion description	Code	Unit time	Fre-quency	Total time
			TMU	Number	TMU
1	Total preparation; re B 23	S1L 1	--	--	7,985S
2	Total process; re B 23	S1L 2-11	--	--	347
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Notes: 1/ Batch size (S) is 90 waffles. $\overline{X} = 0.102$ Y = 0.399			Sheet total		347 + 7,985S
			Grand total		347 + 7,985S

USING BASIC STANDARD TIME VALUES

The basic labor standards for popular breakfast menu items in this report may be used to determine the direct labor hours and costs to produce a breakfast menu order. In addition, they may be used as building blocks to determine standard labor man-hours for scheduling employee work hours and the evaluation of performance for an individual food service operation. The procedure for developing standard labor scheduling man-hours based on the data shown in tables 3 and 4 is beyond the scope of this research, as sufficient statistical data concerning the reliability of product mix are not available.

Direct Labor Hours To Produce
a Specific Menu Order

In light of escalating labor costs and the difficulty in obtaining skilled personnel, the knowledgeable food service operator is constantly seeking least cost alternatives for producing specific menu orders. Typical questions requiring answers in determining the economic feasibility of least cost alternatives are,"Is it better for my cook to prepare a menu order in my kitchen or should I buy a portioned and prepared menu order from my supplier and eliminate or reduce my production man-hours?" "Should I substitute another menu order for an existing one to reduce my production man-hours?" "By increasing production batch sizes, could I sufficiently reduce production man-hours to offset increased cost for additional freezer storage space?"

To answer any of these questions, the following determinations must be made: (1) Compute the prime cost of the current menu order. (2) Compute the prime cost of the alternative menu order or production method. (3) Select the least cost menu order or production method. The most practical way to determine the production costs of new menu items from a supplier is to purchase a small quantity. Then on a test basis calculate the direct labor cost and additional equipment costs, if applicable, to produce a sample batch.

The basic standard time values in table 3 are key factors in determining the prime cost to produce a specific menu order. Prime cost is the sum of standard direct labor and standard food costs.9/ Direct labor is the work effort associated with producing a specific menu item.

A popular breakfast menu order offered in many food service establishments is two pan-fried eggs, bacon, toast, and coffee. As an illustration, the prime cost to produce this order is shown in table 5.

9/ For additional information on computing standard food or food ingredient costs, see Fay, C. T., Jr., Rhoads, R. C., and Rosenblatt, R. L., Managerial Accounting for the Hospitality Service Industries, 585 pp., illus., Wm. C. Brown, pub., Dubuque, Iowa, 1971.

TABLE 5.--Prime cost of and standard process time for 100 bacon and egg orders

Code 1/	Menu item description	Standard direct labor time per 100 items	Standard cost per 100 items 2/	Standard process time per 100 items
		Man-hours	Dollars	Man-hours
B 7-2---	Eggs, fried (2); skillet---	0.964	4.097	0.964
Bk 1----	Bacon; griddle------------	1.044	4.437	.351
Bk 22---	Toast with jelly packet; hand buttered------------	.460	1.955	.460
B 6-----	Coffee; 12-cup server type-	.116	.493	---
	Total direct labor--------------	2.584	10.982	1.775
	Total food cost-----------------	---	3/ 45.530	---
	Prime cost----------------------	---	56.512	---

1/ From tables 3 and 4.
2/ Based on hourly wage of $4.25, including fringe benefits.
3/ See footnote 9, p. 108.

The following procedure was used to obtain the data in this table.

(1) Determine the menu items, such as eggs, bacon, and toast, which are part of the complete menu order listed on the bill of fare. These items were recorded in column 2 of table 5.

(2) Select and record the total standard man-hours per 100 items for each menu item from table 3. For example, bacon is coded Bk 1 in table 3 and the standard man-hours per 100 items are expressed by the time formula 0.105 + 0.203N + 0.946R + 1.130S. Bk 1 was recorded in column 1 of table 5. The time value of 1.044 was calculated as follows: 0.105 + (0.203 X 3 strips of bacon per portion) + (0.946 + 20 pieces of bacon per package) + (1.130 + 4 portions per batch). This value of 1.044 was recorded in column 3.

(3) Verify the method of producing each menu item in the order by re-viewing the motion description in table 4. For example, bacon is coded Bk 1 in table 4: the detailed motion descriptions are given under the menu item acon; griddle. The code B 1 is referenced in Bk 1 (table 4) in lines 1-3 by re B 1. The sheet and lines describing the specific 1 are referenced in column 3. For example, S2L 1, 2 refers the

user to sheet 2, lines 1 and 2, in B 1. If the method in table 4 is not applicable to your operation, determine the man-hour requirements.

(4) Multiply the man-hours per 100 items by the hourly wage rate and record the answer in column 4 of table 5.

(5) Total the man-hours and the cost.

Productive Capacity

In addition to determining the direct labor hours and costs to produce a menu order, the productive capacity or the number of menu orders per man-hour can be calculated from the data in table 3. This is accomplished by adding the standard man-hours per 100 items for the process task and calculating the reciprocal value. For example, the number of bacon and egg orders that could be produced in 1 man-hour would be 56 based on the process time shown in table 5 (100 ÷ 1.775 standard process man-hours per 100 orders).

A word of caution is in order concerning the possible misuse of productive capacity data. The data in the preceding example, 56 bacon and egg orders per man-hour, are based on the following criteria:

(1) Adequate equipment is available, such as skillets and ranges, to produce 56 orders per 1 man-hour.

(2) Adding a second man or doubling the man-hours may not double the productive capacity to 112 orders if adequate equipment and work and storage-space requirements are not considered.

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